REMARKS

This is a full and timely response to the outstanding nonfinal Office Action mailed July 30, 2002. Claims 1-16 remain pending in the present application.

Claims 1-2 have been preliminarily rejected under 35 U.S.C. § 102(b). Claims 3-16 have been preliminarily rejected under 35 U.S.C. § 103(a). The Applicants transverse all of the rejections of the Office Action. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

I. Response to Section 102 Rejection

Claims 1-2 have been preliminarily rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,710,590, to Ichige, *et al.* (hereafter "*Ichige*").

It is well established that "anticipation requires that disclosure on a single prior art reference of each element of the claim under consideration." *W. L. Gore and Associates, Inc. v.. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). The Applicants respectfully submit that *Ichige* fails to disclose at least one element of claims 1-2, respectfully, as set forth below.

Claim 1

Claim 1 recites:

> 1. A method for improving communication of video data in a communication system comprising the steps of:
>
> associating a plurality of video data with a dominant image;
>
> associating a plurality of video data with a background image;
>
> ***allocating a first percentage of available data transmission capacity with the plurality of video data associated with the dominant image;***
>
> ***allocating a second percentage of available data transmission capacity with the plurality of video data associated with the background image, such that the plurality of video data associated with the dominant image is transferred at a relatively higher data transmission rate than the plurality of video data associated with the background image.***

(Emphasis Added)

The Applicants respectfully submit that *Ichige* fails to teach or disclose at least the above-emphasized elements. Particularly, *Ichige* fails to teach or disclose the steps of allocating the first percentage of available data transmission capacity with a plurality of video data associated with a dominant image, and allocating a second percentage of available data transmission capacity with the plurality of video data associated with a background image, such that the plurality of video data associated with the dominant image is transferred at a relatively higher data transmission rate than the plurality of video data associated with the background image.

In preliminarily rejecting claim 1, the Office Action states:

> Regarding claim 1, Ichige et al discloses a method for improving communication of video data comprising steps of:
> associating a plurality of video data with a dominant image (Fig. 1, 24; Fig. 4; Extracted Portion)
> associating a plurality of video data with a background image (Fig. 1, 25a; Fig. 4; Non-Extracted portion);
> allocating a first percentage of available data transmission capacity with the dominant image (128);
> allocating a second first percentage of available data transmission capacity with the background image, such that the video data with the dominant image is transferred at a higher data transmission rate than the video data with the background image (abs.; col. 5, lines 19-55) as specified.

The Office Action refers to numeral 128 alleging that the multiplexer in *Ichige* performs the steps of allocating a first percentage of available data transmissions capacity with a dominant image. The Applicants respectfully submits that the multiplexer (128) of *Ichige* of does not perform the step. Instead, *Ichige* discloses that the multiplexer (128) distributes code according to priority levels into plurality of frames. For example, the multiplexer (128) directs data that are of high priority level a greater quantity of codes into the frames. Images with lower priority level are distributed in a lower quantity of codes into the frames (col. 7, lines 30-37, col. 8, lines 46-48). *Ichige* does not teach or disclose allocating a percentage of data transmissions capacity to a type of code.

In addition, the Applicants believe that *Ichige* actually teaches away from a plurality of video data associated with a dominant image being transferred at a relatively higher data transmission rate than a plurality of video data associated with a background image. Instead, *Ichige* discloses that the quantity of overall transmission data necessary for

achieving satisfactory quality of image can be reduced or an image of a higher quality can be obtained without increasing the amount of transmission data by distributing code according to priority levels into a plurality of frames (col. 7, lines 31-36). In this regard, *Ichige* teaches or discloses that a quality image can be obtained without increasing and maybe even reducing the amount of transmission data. This clearly teaches away from varying a data transmission rate of an image as defined by claim 1.

Because *Ichige* teaches away from varying a data transmission rate of an image as defined by claim 1, *Ichige* does not teach or disclose the step of allocating a second percentage of available data transmission capacity with a plurality of video data associated with a background image, such that the plurality of video data associated with a dominant image is transferred at a relevantly higher data transmission rate than the plurality of video data associated with the background image. As mentioned above, *Ichige* essentially teaches away from transmitting the dominant image a relatively higher data transmission rate than the background image. Instead, *Ichige* discloses distributing code according to priority levels into plurality of frames rather than transferring a dominant image at a higher data transmission rate than background image.

Consequently, the Applicants respectfully submit *Ichige* fails to teach or disclose at least the above-emphasized elements. As a result, *Ichige* does not anticipate claim 1. Allowance of claim 1 is respectfully requested.

Claim 2

The Applicants respectfully submit that pending dependent claim 2 contains all features of its respective independent claim 1. Since independent claim 1 should be allowed, as argued hereinabove, pending dependent claim 2 should also be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

II. Response to Section 103 Rejection

Claim 3 has been preliminarily rejected under 35 U.S.C. 103(a) as being unpatentable over *Ichige* in view of U.S. Patent No. 5,400,076, to Iwamura (hereinafter *"Iwamura"*). Claims 4-5, 8-9, 11-12 and 15 have been preliminarily rejected under 35

U.S.C. 103(a) as being unpatentable over *Ichige* in view of U.S. Patent No. 4,437,125, to Yamamoto (hereafter *Yamamoto*). Claims 6-7, 10, 13-14 and 16 have been preliminarily rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ichige* and *Yamamoto*, and further in view of 6,415,055, to Kato (hereinafter *"Kato"*).

In order for a claim to be properly rejected under 35 U.S.C. § 103(a) the combined teachings of the prior art references must subject all features of the claimed invention to one of ordinary skill in the art. See *e.g.*, *In re Dow Chemical*, 5 U.S.P.Q.2d 1528, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (CCPA 1981). Applicants respectfully assert that the *Ichige*, *Iwamura, Yamamota* and *Kato*, either individually or in combination, fail to teach, suggest or otherwise render obvious the invention as defined by claims 3-16, respectfully, as set forth below.

Claim 3

> 3. The method of claim 1, further comprising the step of concealing at least one error of the video data associated with the background image by replacing data associated with the at least one error with corresponding video data received at an earlier time.

In preliminarily rejecting claim 3, the Office Action states:

> Regarding claim 3, Ichige et al fails to disclose well known concept of concealing error of video data.
>
> Iwamura et al teaches a conventional error concealment method, and a resulting defective picture being replaced with corresponding video data received at an earlier time (abs.) as specified.
>
> Therefore, it would have been obvious to a person of ordinary skill in the art employing a method for improving communication of video data as taught by Ichige et al to incorporate the well known concept of error concealment so that an error associated with the background image of video data can be concealed by replacing data associated with at least one error with corresponding video data received at an earlier time in order to improve the performance of the object oriented coder, thus enhancing quality.

As noted above, the Office Action admits that *Ichige* fails to disclose the concept of concealing error of video data. In this regard, the Office Action refers to *Iwamura*. However, as mention earlier with reference to claim 1, *Ichige* fails to disclose at least one element of claim 1, and since claim 3 use claim 1 as a base claim, *Ichige* also fails to

disclose at least one element of claim 3. In addition, Applicants respectfully submit that *Iwamura* does not remedy the deficiencies of *Ichige*. In fact, *Iwamura* does not teach, disclose or suggest the method defined by claim 1. In particular, *Iwamura* does not teach, disclose or suggest the steps of allocating a first percentage of available data transmission capacity with the plurality of video data associated with the dominant image; and allocating a second percentage of available data transmission capacity with the plurality of video data associated with the background image, such that the plurality of video data associated with the dominant image is transferred at a relatively higher data transmission rate than the plurality of video data associated with the background image. Instead, *Iwamura* discloses an apparatus for expanding a compressed motion picture signal, which can provide an improved fidelity in the reproduced picture when the reproduced compressed motion picture signal includes an uncorrectable signal error. Consequently, allowance of claim 3 is respectfully requested.

Claim 4

Claim 4 recites:

> 4. A system for communication of video information over a network, comprising:
>
> ***a first object-oriented coder for dividing data into object macroblocks and background macroblocks, for allocating a higher data transmission rate to the object macroblocks than to the background macroblocks, and for assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.***

(Emphasis Added)

The Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* fails to disclose the element of allocation a higher data transmission rate to object macroblocks than to background macroblocks. In addition, the combination fails to disclose the element for assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.

In preliminarily rejected claim 4, the Office Actions recites:

> Regarding claims 4, 8, 11, and 15, Ichige et al discloses a system/method for communication of video information, comprising:

> a first object-oriented coder (27b) for dividing data into object macroblocks and background macroblocks, for allocating a higher data transmission rate to the object macroblock than to the background macroblocks (abs.; col. 5, lines 19-55) as specified.
>
> Ichige et al fails to disclose assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.
>
> Yamamoto teaches an error correction code adding additional overhead bits to each block of video data, thereby increasing the redundancy of the data (col. 8, lines 32-35).
>
> Furthermore, since Ichige et al teaches the encoding means including a microcomputer or the like for analyzing information of the features (col. 3, lines 6-12), it is considered obvious for the microcomputer to comprise a computer program for communicating video information over a network performing the above steps.
>
> Therefore, it would have been obvious to a person of ordinary skill in the art employing a system for communication of video data as taught by Ichige et al to incorporate the well known concept of adding additional overhead bits to each block of video data, as taught by Yamamoto so that the higher number of error control overhead bits can be assigned to the object macroblocks than to the background macroblocks, thereby increasing the redundancy of the data with the object macroblocks, in order to improve the performance of the object oriented coder, thus enhancing quality, and to allow more effective video messaging.

As stated above with reference to claim 1, the cited reference *Ichige* fails to teach or disclose the element of allocating one image a higher data transmission rate than another image. Regarding claim 4, *Ichige* also fails to teach or disclose allocating a higher data transmission rate to object macroblocks than to background macroblocks. In either claim 1 or claim 4, *Ichige* fails to teach, disclose or suggest allocating a higher data transmission rate. Instead, *Ichige* discloses distributing code according to priority levels into plurality of frames rather than transferring object macroblocks at a higher data transmission rate than background macroblocks.

As noted above, the Office Action admits that *Ichige* fails to disclose assigning a higher number of error control overhead to the object macroblocks than to background macroblocks. In this regard, the Office Action refers to *Yamamoto*. However, *Yamamoto* fails to teach, disclose or suggest assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks. Instead, *Yamamoto* discloses an identification signal that is generated to identify a digital signal, such as a

digital video signal reproduced by a digital video tape recorder. In addition, *Yamamoto* discloses use of an identification code error correction code that adds additional overhead bits to each block of transmitted video data. However, *Yamamoto* clearly discloses adding additional overhead bits to each block of transmitted video data rather than assigning different numbers of error control overhead bits to object macroblocks and background macroblocks, generally a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.

Consequently, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* fails to teach, disclose or suggest the above-emphasized elements defined by claim 4. In light of this failure, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* does not render claim 4 obvious. Allowance of claim 4 is respectfully requested.

Claims 5-7

Claims 5-7 depends directly or indirectly on independent claim 4. Since independent claim 4 should be allowed, as argued hereinabove, pending dependent claims 5-7 should also be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 8

Claim 8 recites:

> 8. A method for communicating video information over a network, comprising the steps of:
>
> dividing data into object macroblocks and background macroblocks;
>
> ***allocating a higher data transmission rate to the object macroblocks than to the background macroblocks; and***
>
> ***assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.***

(Emphasis Added)

In preliminarily rejecting claim 8, the Office Action recites:

> Regarding claims 4, 8, 11, and 15, Ichige et al discloses a system/method for communication of video information, comprising:

> a first object-oriented coder (27b) for dividing data into object macroblocks and background macroblocks, for allocating a higher data transmission rate to the object macroblock than to the background macroblocks (abs.; col. 5, lines 19-55) as specified.
>
> Ichige et al fails to disclose assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.
>
> Yamamoto teaches an error correction code adding additional overhead bits to each block of video data, thereby increasing the redundancy of the data (col. 8, lines 32-35).
>
> Furthermore, since Ichige et al teaches the encoding means including a microcomputer or the like for analyzing information of the features (col. 3, lines 6-12), it is considered obvious for the microcomputer to comprise a computer program for communicating video information over a network performing the above steps.
>
> Therefore, it would have been obvious to a person of ordinary skill in the art employing a system for communication of video data as taught by Ichige et al to incorporate the well known concept of adding additional overhead bits to each block of video data, as taught by Yamamoto so that the higher number of error control overhead bits can be assigned to the object macroblocks than to the background macroblocks, thereby increasing the redundancy of the data with the object macroblocks, in order to improve the performance of the object oriented coder, thus enhancing quality, and to allow more effective video messaging.

As stated above with reference to claim 4, *Ichige* fails to teach, disclose or suggest allocating a higher data transmission rate. Therefore, fails to teach, disclose or suggest the element of allocating a higher data transmission rate to object macroblocks than to background macroblocks as defined by claim 8. Instead, *Ichige* discloses distributing code according to priority levels into plurality of frames rather than transferring object macroblocks at a higher data transmission rate than background macroblocks.

As noted in the Office Action, *Ichige* fails to disclose assigning a higher number of error control overhead bits to the object macroblocks to the background macroblocks. In this regard, the Office Action refers to *Yamamoto*. However, *Yamamoto* also fails to disclose assigning a higher number or error overhead bits to the object macroblocks than to the background macroblocks. As stated above with reference to claim 4, *Yamamoto* discloses to an identification signal that is generated to identify a digital signal, such a digital video signal reproduced by a digital video tape recorder. In addition, *Yamamoto*

discloses use of an identification code error correction code that adds additional overhead bits to each block of transmitted data. Clearly, *Yamamoto* does not teach, disclose or suggest assigning a different number or error control overhead bit to the object and background macroblocks, generally a higher number of error control overhead bits to the object macroblocks than to the background macroblocks as defined by claim 8.

Consequently, the Applicants respectfully submit that a combination of *Ichige* and *Yamamoto* fails to teach, disclose or suggest the above-emphasized elements. Due to this failure, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* does not render claim 8 obvious. Thus, allowance of claim 8 is respectfully requested.

Claims 9 and 10

Claims 9 and 10 use independent claim 8 as a base claim. Since independent claim 8 should be allowed, as argued hereinabove, pending dependent claims 9 and 10 should also be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 11

Claim 11 recites:

> 11. A system for communicating video information over a network, comprising:
>
> means for dividing data into object macroblocks and background macroblocks; and
>
> ***means for allocating a higher data transmission rate to the object macroblocks than to the background macroblocks, the means for allocating is also a means for assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.***

(Emphasis Added)

The Applicants respectfully submit that the combination of the *Ichige* and *Yamamoto* fails to teach, disclose or suggest the element of "means for allocating a higher data transmission rate to the object macroblocks than to the background macroblocks." In addition, the combination fails to teach, disclose or suggest the element of "means for

assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks."

In preliminarily rejected claim 11, the Office Actions recites:

> Regarding claims 4, 8, 11, and 15, Ichige et al discloses a system/method for communication of video information, comprising:
>
> a first object-oriented coder (27b) for dividing data into object macroblocks and background macroblocks, for allocating a higher data transmission rate to the object macroblock than to the background macroblocks (abs.; col. 5, lines 19-55) as specified.
>
> Ichige et al fails to disclose assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.
>
> Yamamoto teaches an error correction code adding additional overhead bits to each block of video data, thereby increasing the redundancy of the data (col. 8, lines 32-35).
>
> Furthermore, since Ichige et al teaches the encoding means including a microcomputer or the like for analyzing information of the features (col. 3, lines 6-12), it is considered obvious for the microcomputer to comprise a computer program for communicating video information over a network performing the above steps.
>
> Therefore, it would have been obvious to a person of ordinary skill in the art employing a system for communication of video data as taught by Ichige et al to incorporate the well known concept of adding additional overhead bits to each block of video data, as taught by Yamamoto so that the higher number of error control overhead bits can be assigned to the object macroblocks than to the background macroblocks, thereby increasing the redundancy of the data with the object macroblocks, in order to improve the performance of the object oriented coder, thus enhancing quality, and to allow more effective video messaging.

As stated above with reference to claim 4, the cited reference *Ichige* fails to teach, disclose or suggest the element of allocating a higher data transmission rate to object macroblocks than to background macroblocks as defined by claim 11. Instead, *Ichige* discloses distributing code according to priority levels into plurality of frames rather than transferring object macroblocks at a higher data transmission rate than background macroblocks.

As noted above, the Office Action admits that *Ichige* fails to teach, disclose or suggest "means for assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks." In this regard, the Office Action

refers to *Yamamoto*. However, *Yamamoto* also fails to teach, disclose or suggest "means for assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks." Instead, *Yamamoto* discloses an identification signal that is generated to identify a digital signal, such as a digital video signal reproduced by a digital video tape recorder. In addition, *Yamamoto* discloses use of an identification code error correction code that adds additional overhead bits to each block of transmitted video data. However, *Yamamoto* clearly discloses adding additional overhead bits to each block of transmitted video data rather than assigning a different number of error control overhead bits to object and background macroblocks, generally a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.

Consequently, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* fails to teach, disclose or suggest the above-emphasized elements. In light of this failure, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* does not render claim 11 obvious. Allowance of claim 11 is respectfully requested.

Claims 12-14

Claims 12-14 use independent claim 11 as a base claim. Since independent claim 11 should be allowed, as argued hereinabove, pending dependent claims 12-14 should also be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 15

Claim 15 recites:

> 15. A computer readable medium having a computer program for communicating video information over a network, the program performing the steps of:
>
> dividing data into object macroblocks and background macroblocks;
>
> ***allocating a higher data transmission rate to the object macroblocks than to the background macroblocks; and***

assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.

(Emphasis Added)

The Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* fails to teach, disclose or suggest the element of allocation a higher data transmission rate to object macroblocks than to background macroblocks. In addition, the combination fails to teach, disclose or suggest the element for assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.

In preliminarily rejected claim 15, the Office Actions recites:

> Regarding claims 4, 8, 11, and 15, Ichige et al discloses a system/method for communication of video information, comprising:
>
> a first object-oriented coder (27b) for dividing data into object macroblocks and background macroblocks, for allocating a higher data transmission rate to the object macroblock than to the background macroblocks (abs.; col. 5, lines 19-55) as specified.
>
> Ichige et al fails to disclose assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.
>
> Yamamoto teaches an error correction code adding additional overhead bits to each block of video data, thereby increasing the redundancy of the data (col. 8, lines 32-35).
>
> Furthermore, since Ichige et al teaches the encoding means including a microcomputer or the like for analyzing information of the features (col. 3, lines 6-12), it is considered obvious for the microcomputer to comprise a computer program for communicating video information over a network performing the above steps.
>
> Therefore, it would have been obvious to a person of ordinary skill in the art employing a system for communication of video data as taught by Ichige et al to incorporate the well known concept of adding additional overhead bits to each block of video data, as taught by Yamamoto so that the higher number of error control overhead bits can be assigned to the object macroblocks than to the background macroblocks, thereby increasing the redundancy of the data with the object macroblocks, in order to improve the performance of the object oriented coder, thus enhancing quality, and to allow more effective video messaging.

As stated above with reference to claim 4, the cited reference *Ichige* fails to teach, disclose or suggest the element of allocating a higher data transmission rate to object macroblocks than to background macroblocks as defined by claim 15. Instead, *Ichige*

discloses distributing code according to priority levels into plurality of frames rather than transferring object macroblocks at a higher data transmission rate than background macroblocks.

As noted above, the Office Action admits that *Ichige* fails to teach, disclose or suggest assigning a higher number of error control overhead to object macroblocks than to background macroblocks. In this regard, the Office Action refers to *Yamamoto.* However, *Yamamoto* also fails to teach, disclose or suggest assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks. Instead, *Yamamoto* discloses an identification signal that is generated to identify a digital signal, such as a digital video signal reproduced by a digital video tape recorder. In addition, *Yamamoto* discloses use of an identification code error correction code that adds additional overhead bits to each block of transmitted video data as cited in the Office Action. However, *Yamamoto* clearly discloses adding additional overhead bits to each block of transmitted video data rather than assigning a higher number of error control overhead bits to the object macroblocks than to the background macroblocks.

Consequently, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* fails to teach, disclose or suggest the above-emphasized elements defined by claim 15. In light of this failure, the Applicants respectfully submit that the combination of *Ichige* and *Yamamoto* does not render claim 15 obvious. Allowance of claim 15 is respectfully requested.

Claim 16

Dependent claim 16 use independent claim 15 as a base claim. Since independent claim 15 should be allowed, as argued hereinabove, pending dependent claim 16 should also be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, the Applicants respectfully submit that all rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-16 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, Washington D.C. 20231, on

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Signature